

Name: _____

pa1106: Factoring with box when $a = \text{prime}$ (v18)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 14x + 8$.

*	x	
5x	$5x^2$	$10x$
4	$4x$	8

ANSWER: $(5x + 4)(x + 2)$

Question 2

Use the box to factor $7x^2 - 47x - 14$.

*	x	-7
7x	$7x^2$	-49x
2	2x	-14

ANSWER: $(7x + 2)(x - 7)$

Question 3

Use the box to factor $3x^2 - 11x + 10$.

*	x	-2
3x	$3x^2$	-6x
-5	-5x	10

ANSWER: $(3x - 5)(x - 2)$